



Norm Free photo 97-155-1-5

**Surrounding Maverick, the robot designed to perform interior inspections of storage tanks, are Solex Robotic Systems employees and Maverick developers (l-r) Charles Isom, Thor Zollinger, Kerry Klingler and Scott Bauer. Photos below are computerized enhancements.**

## ***Maverick ideas***

# **Robotics spin-off tests entrepreneurial policy**

*By John Walsh  
for the Star*

### **Technology Transfer**

The latest INEEL spin-off company, Solex Robotics Systems, is the first to emerge from the lab under the "Developing an Entrepreneurial Spin-off Company" policy.

Solex Robotics is manufacturing a robot that can be submerged in refined oil to inspect the interior of above ground-storage tanks without draining the tank. The technology was developed by the LMITCO Robotics Program and licensed to Solex Environmental Systems of Houston. Solex Robotics is a subsidiary of the Houston firm.

David Taylor of the LMITCO Technology Transfer Office says the entrepreneurial policy was developed to offer incentives for employees and reduce some of the risks for those considering spinning off INEEL technologies.

For the four former LMITCO employees, Thor Zollinger, Scott Bauer, Kerry Klingler and Charles Isom, who left to form Solex Robotics Services, the policy made a difference. They said the support they received from the Technology Transfer Office, which administers the policy, was extremely helpful and left them with a good feeling when they left INEEL Feb. 1 and moved into the Bonneville Technology Center.

Bauer says, "We left with a handshake and a lot of support. We still have friends there (at the INEEL)."

Klingler says it took some of the risks out of starting a new company, particularly the extension of benefits and the entrepreneurial leave of absence, which allows, under certain circumstances, for an employee to return to LMITCO after leaving to start of spin-off company.

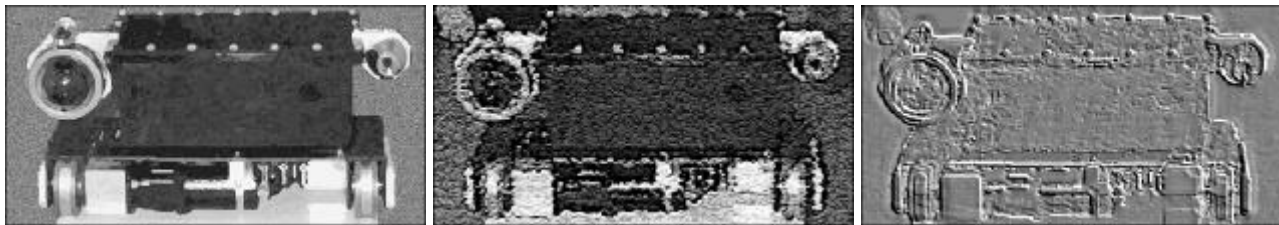
The policy allows an employee to continue medical benefits for one year, with the option for two one-year extensions, at employee rates. Vacation, investment plan and retirement plan assets are frozen during the extended leave period.

The policy has other incentives including subcontracting work to the spin-off company through LMITCO's master contract agreement, helping locate capital, access to limited free technical assistance and to lab equipment and facilities through the User Resource Agreement.

Zollinger says, "Jack Simon, (TTO vice president) was a champion for us. And we received a lot of support and assistance from Larry Hops, Tom Harrison, Dave Taylor and Donna Barker (all with the TTO)."

Everyone is optimistic that Solex Robotics will be successful. Taylor hopes that as word spreads within the company that the policy works, more employees who've been considering spinning off a laboratory technology will take the initiative.

For information about the policy or to receive assistance in pursuing a spin-off, contact Charles Briggs at 526-0441 or David Taylor at 526-8546.



## Robot breaks ground for inspection 'tank-nology'

*by John Walsh  
for the Star*

Maverick doesn't look it, but this little robot is the next generation of storage tank inspection technology and could save several industries many millions of dollars a year.

Maverick is the first submersible, storage tank interior inspection tool. Developed by Lockheed Martin Idaho Technologies Company's Robotics Program, it now is the first product of spin-off company Solex Robotics Systems located in the Bonneville Technology Center.

Solex Robotics is a subsidiary of Solex Environmental Systems of Houston. It received the manufacturing and marketing license for the technology from LMITCO. As part of the agreement, Solex Robotics manufacturing and development facilities will remain in Idaho Falls so the development team of former LMITCO employees Thor Zollinger, Scott Bauer, Charles Isom and Kerry Klingler can be

close to and use the technology base of the Idaho National Engineering and Environmental Laboratory for future upgrades.

The current version is designed to perform storage tank plate and weld inspections while submerged in refined petroleum product up to number 2 fuel oil. Maverick's value is that it can inspect tanks while they are full and in service. This saves the tank operator from loss of revenue and the expense of draining a tank, making it safe for entry by an inspector, and performing the inspection. This also eliminates the need to dispose of sludge, solvents, detergents and water.

The robot is a black box of electronics that rolls on magnetic wheels that allows it to inspect tank floors and walls. Inspections are done with ultrasonics probes, checking for corrosion and weld problems that could cause leaks. The robot carries a camera and light for visual inspection. An umbilical cord connects the robot with its operators outside the tank for relaying information.

Zollinger says the team is now busy preparing for Factory Mutual underwriter certification tests in late summer so the system can be used in explosive environments, such as oil storage tanks.

The first demonstration of the system is in September in the United Arab Emirates, where three systems will be delivered. Solex Environmental Systems has an agreement with General Electric Corp. for capital investment funds. Part of that agreement calls for Solex Robotics to perform a demonstration in the UAE in conjunction with a business deal GE has to sell the UAE aircraft engines.

Zollinger says a successful demonstration will lead to a significant contract with a company that does pipeline inspections throughout the Middle East and will establish worldwide market potential.

The tank inspection business will become competitive, so Solex Robotics will need to maintain its state-of-the-art edge in robotics and expand its markets. Besides oil industry applications, future markets will include chemical, shipping, pipeline and water tank industries.

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## ***DOE downlink***

### ***New Energy Secretary offers greetings to DOE employees***

*(Editor's note: This is Energy Secretary Federico Pena's statement during his first day in office on March 13. He delivered his greeting to Department of Energy employees in a video downlink.*

**Energy Secretary**

*John Wilczynski, DOE-ID manager, said, "It is our first look at the agenda of our new Secretary and I find it energizing and informative.") The address has been edited for space reasons.*

#### *Introduction*

Good morning, team! I couldn't think of a more appropriate time -- my first official day as the Secretary of Energy -- to address the DOE family